AEQ news

New products ..... p. 2
Editorial ..... p. 3
The EiTB installation in Bilbao ..... p. 4 - 7
The experience of Onda Regional de Murcia ..... p. 8
User testimony: RDP in Lisbon ..... p. 9
The UCKG installation in London ..... p. 10
Jacaranda FM 94.2 congratulates AEQ ..... p. 11
Internal News ..... p. 12
International presence ..... p. 12

Nº 15, 2007

The year of the ARENA console

AEQ Innovations for 2007-2008

Last year AEQ presented the most extensive catalog renovation and expansion in its history. We consolidated the production of the equipment launched while continuing to present new products and improving others.

BRAVO ANALOG MIXING CONSOLE FOR RADIO BROADCASTING

Designed to operate uninterruptedly, and affordably priced for small radio stations, this stereo mixing console is equipped with two program buses, four mic / line channels, eight asymmetrical stereo line pairs, dual telephone hybrids channel , CUE bus with integrated loudspeakers, outputs for headphones and monitoring with amplifiers. Everything needed for broadcast radio, and more, in a compact, robust design.

PHOENIX STUDIO IP AUDIO CODEC. The PHOENIX is an IP audio codec that has two slots to optionally insert other communications modes —initially regular phone POTS, very shortly digital lines ISDN, X21, V35 and mobile lines GSM, and in the future any other telecommunication mode that our customers may require.

PHOENIX can simultaneously use a backup or coordination channel through the optional communications interfaces.

PHOENIX is designed to be compatible with existing and future equipment made by AEQ and other manufacturers, which means that it is fully compatible with the N/ACIP standard. What's more, it comes equipped with a wide variety of encoding modes, and is upgradeable to other modes.

Last year we presented the PHOENIX MOBILE for portable use. Its features include a digital mixer with four analog inputs, LI-ION battery and 12 V DC battery charging power feed unit.

Now we are pleased to present PHOENIX STUDIO, a stationary unit designed to work with other stationary codecs or as a companion to the PHOENIX MOBILE and other portable codecs. The PHOENIX STUDIO occupies one rack space with analog and digital stereophonic inputs and outputs and power supply from 90 to 250 V AC.

COURSE MULTICODEC, TELEPHONE AND IP HYBRID BOARDS

For those occasions when many communications circuits must be concentrated in one place, AEQ has created new boards for the software-controlled COURSE multiple audio codec, which now handles not only ISDN and X21/V35 circuits, but also IP links and telephone hybrids. These new boards enable users, in countries where ISDN lines are costly or hard to get, to use the Systel 6000 multi-conference software.

MAR4SUITE PRO RADIO AND TV AUDIO AUTOMATION SUITE

AEQ put its first automation system on the market in 1994. Now it has completed the development of its third generation. In this latest system:

Based on the Microsoft SQL Server database engine, a new system has been built incorporating other complementary functions to maximize broadcast and data security. Moreover, new features have been included, some of which were requested by users, such as a MIX-Editor that lets its users graphically mix sound on the playlist itself, and a multi-track editor.

PRODUCT IMPROVEMENTS

The LIVE 20, high power wireless microphone was certified by the FCC (Federal Communications Commission)

The new wireless broadcast transceiver , for outside broadcast links with the LIVE 20 audio mixer, has been certified by the FCC, and thus is on sale in the USA.

PAW 120 digital handheld recorder

With impressive benefits: loudspeaker, standard AA batteries, ability to record linear audio; the PAW 120 is an extractable volume for Windows operating systems; internal microphone and XLR adaptor for other microphones. It's now equipped with 1-GB of memory; optional clip-on stereo microphone; and a new, elegant matte black finish.

CONTENTS .....page

New products ..... p. 2
Editorial ..... p. 3
The EiTB installation in Bilbao ..... p. 4 - 7
The experience of Onda Regional de Murcia ..... p. 8
User testimony: RDP in Lisbon ..... p. 9
The UCKG installation in London ..... p. 10
Jacaranda FM 94.2 of Johannesburg congratulates AEQ .. p. 11
Internal News ..... p. 12
International presence ..... p. 12

Editorial team

AEQ Marketing Department
C/ Rey Pastor, 40, 28914 Leganés
Madrid. Spain
Telf. : (34) 91 686 1300.
Fax: (34) 91 686 4492.
Director: Miguel Sancho.
Writing and Editing:
Miguel Sancho,
Gustavo Robles,
Luis Miguel Sánchez Migallón
Layout and Design: Suntrap & Asociados
www.suntrap.es
Printed by: Alef de Bronce
Published by: AEQ S.A.

www.aeq.eu aeqsales@aeq.es

Contacts

AEQ USA
4121 SW 47 Avenue, Suite 1303
Fort Lauderdale FL 33314
Tel. 954-581 7999 Fax. 954-581 7733
Toll Free 800-728 0536
e-mail: sales@aeqbroadcast.com
www.aeqbroadcast.com

AEQ UK
Chris Sewell
Tel. 0845 838 1529 Fax 0845 838 1539
e-mail: info@aequk.com
www.aequk.com

AEQ PORTUGAL
Antonio PIÇARRA
Quinta de Palhacana-Pereiro de Palhancana
2580 Alenquer
Tel. +351 261943006 Fax +351 261943007
e-mail: aeq@mail.telepac.pt

AEQ CATALUNYA
Nacho Olivella
Tel. 659 994 655
e-mail: catalunya@aeq.es
nolivella@aeq.es

Available in wood-blue or gray-black finishes.

EDITORIAL

The year of the ARENA console

The ARENA console represents the consolidation of digital technology in mixing and switching audio signals in the digital environment, and the completion of the process of transformation of AEQ's technological base from analog to digital audio.

In 1996 AEQ began developing a new commentator system, the DCS 10, which made its debut at the Nagano Olympic Games in 1998. Each commentator position is a digital mixer. With the advent of the DCS 10, AEQ added digital audio switching and mixing technology to its know-how.
In the year 2000 we began developing the Impact audio router with 120 inputs and 120 outputs, and the mixing function in each of its outputs. This medium-size router equips the central control rooms of many radio stations today and is the heart of the Systel 6000 multiconferencing and audio line multiplexing system.

Then we developed the BC 2000 D digital audio matrix and console, whose design philosophy and name come from the first ON AIR AEQ console, which was a market reference product from 1988 to the end of the century.

The BC 2000 D has meant the implementation, on digital technology, of all the functionalities that broadcasters had obtained from their analog equipment, as well as all the new features that the digital environment makes possible.

And when AEQ felt comfortable with the BC 2000 D console technology, we met the challenges users set before us as the result of the features that characterize the digital process, and made an additional forward stride by launching a new product, the ARENA, with brings together features, flexibility and reliability. From that point onward, we made a great many emblematic installations with satisfied users; these are the results we take pride in showing you in this publication.

In particular, we want to tell you what we've done in Bilbao, Spain, for EiTB, the Basque government's radio station. There, after being chosen in a rigorous selection process, we encountered a group of excellent technical interlocutors who enabled us to develop a great digital radio project based on the ARENA console.

We would be pleased to offer you what we have learned in this past year regarding installations based on digital audio consoles and matrixes, after adapting it to your particular needs and circumstances, and to add you to the list of satisfied users you will find in this bulletin.

THIS IS HOW **AEQ** INSTALLS ITS **DIGITAL SYSTEMS**

AEQ INSTALLS THE NEW EiTB HEADQUARTERS IN BILBAO

Recently AEQ finalized, at the new EiTB headquarters, the start-up of the largest and most complete installation of digital radio equipment, developed and manufactured in Spain.

THIS IS HOW AEQ INSTALLS ITS DIGITAL SYSTEMS With the most advanced own technology based on ARENA consoles, BC-2000 D routers and the Systel Multiconference System.

From this impressive new headquarters in Bilbao, EiTB broadcasts its programs while also contributing and distributing its own programs to the territorial broadcast centers in San Sebastián, Vitoria, Pamplona, etc., with a copious flow of signals.

TECHNICAL SPACES

Basically, the EiTB facility consists of the following technical spaces:

- A central control room where the AEQ BC-2000 Router digital matrix and the entire AEQ SYSTEL 6000 communications management system are installed.
- A main studio that is divided into two smaller studios , one for news and the other for programs.
- 4 Control-studio facilities
- 3 Studios in self-control format
- 4 Recording booths

The extraordinary modularity and versatility of the AEQ ARENA digital mixing consoles has made it possible to use them to equip any control room, self-control operation or recording booth with the most varied needs and without having to accept any decrease or variation in functionality with respect to the planned functionality.

Because the main control room has two studios, one for news and the other for programs, it is equipped with two AEQ ARENA mixers with 25 and 15 faders, respectively.

Control 1 with two consoles

Controls 2, 3, 4, and 5 are also equipped with two 25-fader AEQ ARENA mixers, while self-control facilities 6, 7, and 8 are furnished with 15-fader AEQ ARENA mixers, and the four recording booths with the same mixers, but in a five-fader configuration.

Independently of the composition for each of the studios, the functional characteristics are invariable.

Composition and features of the EiTB consoles

The AEQ ARENA digital console integrates headphone amplifiers in its BC-2203MH output boards. Each board has two independent outputs to which ten 600-Ohm headphones can be connected. Therefore it is not necessary to use external headphone amplifying units.

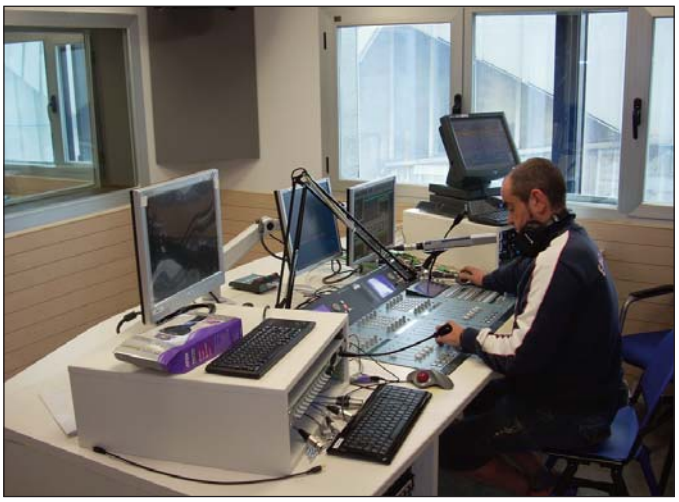
From the programmable buttons on the AEQ ARENA mixing consoles, or from the external button units, GPI and GPO functions of console peripheral equipment can be controlled.

The AEQ ARENA consoles offer the complete control of all monitored audio, signaling, cough muting, etc. required in a radio studio. What's more, several studios can be also controlled simultaneously while maintaining the independent signaling operations.

All these signaling functions, audio muting, GPI and GPO, are fully identified on the console—they are an integral part of it—which means that no external element is needed to perform them.

The composition of the consoles is as follows:

- A frame rack for inserting all the audio boards, process DSPs and system controller.
- Redundant power supply unit.
- Modular control surface. Each surface can accommodate different control and fader modules, and each of these modules can, in turn, be placed in different positions according to the users' preferences in each radio station. Thus, the channel ON/OFF pushbuttons can be placed above or below the faders. Each group of faders and its associated parts are composed of groups of five potentiometers.
- The link between frame and surfaces is ensured by means of a single category 5 cable. The connection is IP. Because each surface and each frame has a different IP address, it is possible at any time (with the supervisor's authorization) to connect any surface in the station with any control frame.



Studio 8 in operation

Each set of faders is made up of five 100-mm motorized sliding potentiometers made of conductive plastic. Associated with each fader is a display indicating the audio source that is active in the channel at any given moment, and its panoramic or balance. It has a rotary encoder / gain pushbutton and an input option menu access selector in each of the channels:

The entire audio process is handled within the board frame. This includes all of the system control and memories. This makes it possible, while the audio is being broadcast, to disconnect the control surfaces, replace pieces in their front panels and reconnect the control surfaces. Because all of the configuration is in the frame, the replacement of any component (programmable keys, pushbuttons, potentiometers, etc.) of the control surfaces, and even the total replacement of the entire control surface, can be accomplished without stopping the broadcast audio at any time. Once it is reconnected, each pushbutton, sliding potentiometer, label, etc. recovers its operating state, with automatic positioning of the faders.

By using any of its analog or digital outputs, any type of measuring instrument available on the market can be connected (VU meter, peak indicator, phase meter, etc.). However, the AEQ ARENA console has two high precision LED VU meter-peak indicators, all of whose parameters are software programmable (the software is supplied with the console), as well as level indicators for all console inputs and outputs. Since the console also includes a VU meter with phase meter, there is NO need to supplement the console with any external equipment item.

(continues on page 6)

How we were selected

RADIO EUSKADI ETB BILBAO approached its selection of the digital studio and central control system with maximum rigor and absolute objectivity.

They contacted the most important companies in the industry and invited them to participate in a two-phase selection process:

In the first phase, each of the interested companies had to submit a functioning router console model and conduct tests for three days, during which practical verification was made of compliance with over 90 essential requirements which had to be fulfilled in order for the would-be bidder to be able to present its solution in this tender. A tribunal of technicians and users had to score the extent of each candidate's compliance with each requirement.

Functioning console and matrix model submitted to EiTB to undergo the first phase evaluation tests

In the second phase, the company selected to pass to this phase installed two studios which operated for six months. The understanding was that if, at the end of that period, the users and technicians confirmed their acceptance of the functioning of the test equipment, its supplier would be selected to execute the overall project.

Of the numerous firms invited to participate, only three agreed to subject their equipment to this selection process: DHD, Lawo and AEQ. Only one of the three passed the tests: AEQ with its main equipment, ARENA and the BC-2000 D router.

In the second phase, the users and technical departments confirmed their acceptance of the operation of the AEQ system, and we proceeded with the overall project.

AEQ BC-2000 D Router Central Control Router (Matrix)

The AEQ BC-2000 D Router is an audio matrix designed for the most demanding operation, in terms of both reliability and maintenance. With a capacity of 1024 x 1024 audio signals (100% summing / distributing), the AEQ BC-2000 D Router uses the same hardware utilized in the AEQ ARENA console, a feature that makes maintenance easier.

Thus, router users have at their disposal microphone boards, analog lines, single and dual MADIs, headphone outputs and intercom inputs / outputs.

BC 2000D Router with 1024x1024 circuits

In the configuration installed at EiTB, all the audio inputs and outputs are made through AES / EBU connections. For this reason, only two types of audio connection boards are used: AEQ BC-2202 boards are input / output boards with GPI and GPO for each connection. These inputs / outputs can be configured in AES / EBU mode or SPDIF mode. Further, they include sampling rate converters (SRC) in the inputs and outputs, and are able to force the output of the same board to a different sampling rate.

The other type of boards used at EiTB are MADI connection boards capable of transporting up to 64 input audio channels and 64 output audio channels for each of their two links. One of these boards was installed for each of the studio consoles. Each of the boards has simultaneous optical fiber and copper coaxial cable connections.

The AEQ BC-2000 D Router central control has all the security elements required for the correct operation of the system.

View of the central control during installation

- Silence detectors with automatic switchover to another output or input whenever the programmed silence time margin is exceeded.
- Timing error detector, with change or activation of a pre-programmed function to solve the problem.
- Switching agenda by time of day, sequence, GPI, manual, etc.
- Redundant power supply with dual input.
- Alarm notifications by software and in the boards themselves by means of error LEDs.
- Redundant dual controller.
- Hot swapping of audio boards without disconnection or noise in the audio.
- Backup system in the process DSPs: one DSP is configured in standby mode and, if any DSP in the frame fails, the standby DSP takes over for the failed one.
- Hot swapping of cooling fans, with no need to disconnect the frame.

Physically, the router supplied to EiTB consists of a main frame and four satellite frames.

The main frame performs and manages the main functions of the matrix, crosspoints, additions, processes, etc., and is connected with the rest of the frames through dual MADI boards capable of managing 128 time slots of the general system TDM bus.

The rest of the frames support MADI communications with the 13 AEQ ARENA consoles, and the digital audio boards for all the signals in the system (32 per studio and 16 per recording booth), including the 40 ISDN lines coming in from the SYSTEL 6000 communications manager.

There is one redundant frame which is wired from the consoles with AES digital lines so that, if the MADI optical fiber network were to go down, the system would continue operating with an acceptable minimum number of signals.

The installation also has, for the AEQ BC-2000 D Router matrix, remote programmable panels of the NCB 100 type, with 12 access and switching keys, LCD status display and recording, call and programming keys. One rack unit in height, they are connected to the matrix via IP connection; as many of these panels can be installed as necessary .

Finally, it should be emphasized that in this project, a premium has been placed on security, in addition to offering EiTB a system that fulfills all the technical demands requested, commensurate with a new facility whose design and functionality impress the observer.

Luis Miguel Sánchez-Migallón
Project Manager of the EITB installation

Letter of congratulations from the customer

AEQ
D. Luis Miguel Sánchez Migallón
Northern Area Division Head

Good morning, Luis Miguel,

Now that we have finished the start-up of the Radio Euskadi facilities, and in the light of the operational outlook for these first three months, we wish to convey to you and to the entire AEQ team our satisfaction with the equipment you have supplied to us, which includes 13 Arena BC2000D consoles, the BC2000D 1024x1024 router and its eight terminals, as well as the Systel 6000 system based on Course codecs and system control terminals.

We appreciate even more, if such a thing is possible, the professionalism, dedication and availability that you have shown throughout the assembly and installation process, as well as during the start-up, and your effective handling of the complex adjustments that typify a facility of this sort, thanks to which we were able to complete our project within the planned time frame and to our entire satisfaction.

Yours sincerely,

Koldo Lizarralde
Audiovisual Project Director for the new EiTB headquarters in Bilbao

Goio Torrontegui
Radio Euskadi Technical Service Manager

Goio Torrontegui, Radio Euskadi Technical Service Manager and AEQ engineer Javier Ferrer configuring a booth

Photos of the facility

Checking remote codecs from a booth

Central control during the installation process

Rear view of the BC 2000 D matrix, 1024x1024 circuits

Centralization, in the central control, of the frames of all the consoles in the various studios

View of Control 5 in its final installation phase

Studio 3 during the assembly phase

REFERENCES SPAIN

The experience of Onda Regional de Murcia with the AEQ ARENA console

Onda Regional de Murcia is a very active station operated by the Autonomous Government of this Spanish region. During the last decade of the past century, AEQ installed a station equipped with BC 2000 analog consoles. Now the station has updated its equipment and, after studying the offerings available in the market, decided on the AEQ ARENA console.
Mr. Daniel Tomasi of the Onda Regional Technical Department describes his experience:

At Onda Regional de Murcia we needed a potent, flexible and highly configurable digital table solution that could be completely tailored to our needs. That's why we chose ARENA by AEQ.

At ORM (www.orm.es), we offer a fresh, quick and, above all, very immediate kind of radio. With a lot of live connections during newscasts, programs and sportscasts. Besides the natural benefits of a console with digital technology, such as having the best sound quality and a broad range of options that, with the analog consoles, means using equipment with a clearly limited functionality for today's radio business, the ARENA console has enabled us to customize the roles of each of the three that we have installed.

The clearest example can be seen in the live broadcasting console, into which we have been able to integrate central control and remote control functions governing telephone hybrids and ISDN. This has enabled us to gain in immediacy and versatility in our broadcasts.

As an example, during our most recent elections we did a special 18-hour news broadcast, with nearly 100 live connections throughout the day, with four mobile units being input simultaneously, and with more than 10 reporters posted all over the region coming in live via telephone in very brief intervals. All this was managed by the control technician aided by a support technician devoted almost exclusively to recordings. The ARENA has met our expectations.

Daniel Tomasi, Technical Department , Onda Regional de Murcia

Other ARENA consoles installed in Spain

CADENA COPE, MADRID

This network has more than a hundred broadcasting stations all over Spain; it broadcasts two programs. It has purchased a BC-2000 D console to update one of the continuity studios in its Madrid headquarters.

RADIO DEL PRINCIPADO DE ASTURIAS

Three ARENA digital consoles plus a digital matrix for the central control room, redundantly connected by optical fiber and coaxial cable and linked with the AEQ Systel 6000 system to provide multiplexing and multi-conferencing with telephone lines. Additionally, a connection is made with the television matrix to share signals.

ONDA CADIZ

AEQ provided the first part of Cádiz's municipal radio and television communication project by equipping its radio facilities with an AEQ ARENA console.

RADIO EUSKADI ETB IRUÑA, NAVARRA.

The Navarre division of EiTB equipped its studio with an AEQ ARENA console with capacity to handle 12 mono analog inputs and outputs, 12 AES / EBU inputs and outputs and four microphones; it also installed three two-line ISDN AEQ EAGLE codecs. A complete installation was done, including the integration of equipment by other manufacturers.

SAN VICENTE DE RASPEIG, ALICANTE.

AEQ completed the installation of the turnkey project for the municipal government-operated radio in San Vicente de Raspeig in Alicante. The configuration requested involved two control facilities and a single studio, one of which was equipped with the AEQ ARENA digital mixing console. A Mar4Win automation system was also installed, as well as a Systel 6000 multi-conference system.

FUNDACIÓN UNIVERSITARIA SAN PABLO CEU, VALENCIA

On the occasion of putting the San Pablo CEU university station on the air, AEQ installed an ARENA digital mixing console and expanded the Mar4Win automation network.

UNIDAD MOVIL DE PUNTO RADIO

In the spring of 2007, during the Ponferrada Radio Week, Punto Radio premiered its new mobile studio, which was assembled and installed by the Broadcast 10 Company and equipped with an ARENA console. With 16 square meters of usable floor space, the studio can accommodate as many as eight guests and one or two control technicians.

Other ARENA references in Spain

TELEMADRID RADIO: ARENA console with 25 faders
RADIO UNIVERSIDAD GRANADA: ARENA console with 15 faders
RADIO LAGUNA DE DUERO: ARENA console with five faders

REFERENCES: PORTUGAL

User testimony: The experience enjoyed by RDP RADIODIFUSÃO PORTUGUESA in Lisbon

RDP, Portugal's national radio entity, is an EBU (European Broadcasting Union) member with a high technological level. It purchased a BC-2000 D console to equip its ON AIR studio 6, which belongs to its main broadcasting channel, Antena 1. Later it installed an ARENA console for its twin studio, number 7.

In each of the studios the control console is composed of one DM surface and two D10s, with a total of 25 faders, which enable 225 channels to be controlled. Additionally, in each studio there is another D10 surface that mirrors one of the control surfaces, enabling the studio to operate without a control technician with up to 90 audio channels.

After the installation of the first console, the engineer, Mr. Carlos Gomes of the engineering and technology management office, wrote an article for Radio World magazine describing the technical aspects of this particular installation and how the product was able to deal with them:

Radio World

The working method we follow at Antena 1 establishes that, during our news broadcasts, the journalist will sit beside the broadcast host, open and close the microphones and control the audio management system on the computer hard disk: The studio is conventional during the news blocks and self-operated during normal broadcasting.

We thus had to search the market for a modern digital control console that would enable us to operate as we customarily do. After analyzing the proposals we received, the selection fell to the one submitted by AEQ. The AEQ table functionally complied with the characteristics we sought, with the enormous benefit of not being supported by a PC, not having a hard disk and having a resident software that provides very strong guarantees.

Since this equipment can be configured to suit the user's needs, a preliminary configuration was defined at RDP, and during the installation phase the initial configuration was optimized so that we could make better use of all the functionalities available. It is configured with two ten-way modules and a master module installed in the technical control booth. The third ten-way module is installed in the studio.

We thus have a single console divided between two physically separate spaces. The fact that the studio is used for all the Antena 1 broadcasts led us to configure the console so that it would be suited to each one of the characteristics of the various broadcasts. For this purpose, we use the command pages. Another characteristic is the use of programmable keys. By using these keys users control two dual audio codecs with off-hook, hold and ON AIR functions. The console matrix enables these lines to be used as N-1 and to operate as a multiplex console.

The module installed inside the studio mirrors the modules in the control room. Further, the commands that are normally under the broadcast presenter's control can be simultaneously monitored by the control technician, thus allowing simultaneous control of some audio sources.

This console introduced a new technology and a new way of working into RDP. To minimize the impact of the alterations on daily operation, we strove to make the configuration used match the analog console we had been using previously as closely as possible. The training of our sound technicians barely took a day, and the maintenance and configuration technicians completed their training in three days.

In conclusion, we can state that, one year after the installation of the console, AEQ continues to merit our trust. Next month we will install a second studio with the same characteristics, but with the new AEQ ARENA console.

Carlos Gomes, Assistant Systems and Planning Manager, RDP

OTHER ARENA INSTALLATIONS IN PORTUGAL
MEDIA CAPITAL RADIO

RADIO CLUBE

Radio Clube is a historic radio station in Portugal with 75 years of broadcasting experience behind it. In 2006, when the PRISA group bought shares in Media Capital Radio, the programming model changed to include a strong news and debate component.

In this regard, a new editorial staff was created and a studio / auditorium and a control-studio added with the new AEQ ARENA console.

RADIO COMERCIAL

RÁDIO COMERCIAL
A Melhor Música

Radio Comercial covers all of Portugal with a musical format oriented to a young audience. It is one of the country's most listened-to stations.

It equipped its new studio with the new black finish ARENA console. With 15 paged faders, the Radio Commercial staff controls 12 analog inputs / outputs and 24 AES / EBU inputs.

The station will soon renovate its reserve broadcasting and recording studio with a second ARENA console with the same configuration.

ROMANTICA FM

Romântica fm

This is a theme station belonging to the MCR group. It renovated its studio in July 2007 with the installation of a new ARENA console.

UCKG MEDIA CENTRE INSTALLS THE AEQ ARENA CONSOLE

USER'S REPORT published in Radio World magazine in August, 2007 *By Carl Landsbert*

Radio World

BUYER'S GUIDE

UCKG Center Installs AEQ Arena

By Carl Landsbert

London. UCKG chose AEQ technology for the complete installation of its new media center. The complex includes five radio studios from which UCKG produces two radio services: Radio Record, a Portuguese language service for expatriate Brazilians in Europe, and Liberty Radio, an English service.

Jean Pierre Cardoso, Managing Director of both Liberty and Record Record, said that "AEQ UK were able to provide the whole package and project manage the installation, for a very competitive price given the level of facilities required."

Interconnecting cabling

The installation proved complicated because it involved the move of key equipment from the former home of Liberty Radio in East London.

Budget constraints meant that as much equipment as possible from Stratford was re-utilised. Record Radio, a completely new station, then needed to integrate into the Liberty Radio infrastructure.

AEQ UK built the installation around AEQ BC-2000D digital audio router and RCS Master Control system. The original plan was to have AEQ Arena consoles in each of the five studios: two on-air, one backup and two production/workshop studios. However, budgetary constraints meant that only one of the studios has the Arena digital control surface, but the system has been designed with future 100% digital studio upgrades in mind.

The Arena uses a MADI digital link to the AEQ BC-2000 router, so that inputs and outputs are only connected in to the system once. It also means that, as the main frame for the Arena is physically located in the racks room, the interconnecting cabling between racks and the studio is reduced vastly.

Because the computers for the automation system are also connected digitally, only the local equipment and the microphones need be connected to the frame in addition to the digital audio for the Arena control surface.

It is possible to configure all I/Os available in the router, to be available in the Arena via the MADI link and vice versa.

Though AEQ offers mic/lin cards for the Arena frame, the installation uses either the analog four mono I/Os or the digital four AES/EBU I/Os. Each card also has more than enough GPI/Os.

These are the same cards that run in the BC-2000D router, allowing for a reduced spares inventory. Studio mics connect to Behringer VX2496 Microphone preamps which have AES/EBU outputs which in turn are connected along the tie-lines to the frame in racks without having to run mic cables.

The entire system is digital from the microphone to the AEQ Eagle codecs for the STLs.

The digital cards work with either SPDIF (using an optical to coaxial converter) or AES/EBU inputs, making it possible for semi-professional kit to connect to the mixer. The analog inputs are electronically balanced, but there are also transformer balanced cards available.

The Arena is located in the backup studio, allowing for great flexibility in studio changes. This means that clean-feeds and telephone calls and other outside sources can be available at the touch of a button for either Liberty or Record Radio.

The other advantage is that should either station wish to provide a different programme on the web from the main stream, this can be done with preset buttons on the Arena for the routing.

The Arena mixer can also easily route (and mix) sources direct to any of the four outputs that the Media Centre provides.

The Arena itself, whilst looking complicated at first, is easy to use. The channels and the programmable preset buttons are easy to setup with AEQ GUI software, but the great thing about the Arena is that it does not need a PC to run in normal operation. Although the Arena has loads of DSP features (Dynamics, EQ, delay…), UCKG does not make much use of them.

Another function that is extensively used, is being able to assign channels to the any of the buses for use as custom clean feeds for talk programmes or just simply an output to the RCS automation system for voice-tracking.

Audio levels

The audio levels for each channel are shown on the displays. The VU LED meters are easy to read and can be calibrated to have PPM ballistics.

One feature missing is the ability to 'Offer' and 'Accept' during studio switching, but this can easily be achieved by some external logic and the GPI/Os.

Whilst it can be seen as useful in multiple studio installations, the motorised faders do not serve much purpose here, except for the assignation of different audio channels to different faders using "pages".

All in the AEQ Arena is a great looking: affordable digital console with bucketloads of features only available on much more expensive consoles. Its flexibility outweighs any negatives which are mostly idiosyncrasies with configuration.

Carl Landsbert, Project manager of the Liberty and Record Radio installation

Other ARENA consoles installed in Europe

ROMANIA.

RADIO TRINITAS.

Radio Trinitas is the radio broadcaster of the Orthodox Church (90% of Romanians are Orthodox). From the station's headquarters in Lasi, the broadcaster's management moved the radio studios to downtown Bucharest, into the Patriarchate offices. AEQ set up a complete studio, including installation and start-up. The Arena console supplied has 15 faders. AEQ's distributor in Romania, Global Audio Systems, participated actively in the project.

BULGARIA

NATIONAL DARIC RADIO.

This is Bulgaria's largest radio broadcaster. Through the local AEQ distributor, Insat Electronics, they acquired a 15-fader ARENA console.

POLAND

RADIO 5.

This is a private radio station located in Suwalki in northeastern Poland. The station has two frequencies to cover its geographic area. Its broadcast content is centered on subjects of regional interest. Through AEQ distributor, DTS, Radio 5 was supplied with a 15-fader ARENA console.

RUSSIA

RADIO RUSIA (State Broadcasting Company)

Acquired from Qualitron, AEQ distributor, four 25-fader ARENA Digital Consoles for the Moscu studios.

IN JOHANNESBURG, AEQ INSTALLS THE MAIN JACARANDA FM 94.2 STUDIO

THE CUSTOMER SENT US A LETTER OF CONGRATULATIONS

AEQ, through its distributor, Prosound, completed the installation of the Jacaranda FM radio studio, located in Johannesburg's Monte Casino shopping area, which they equipped with a digital mixing console that was fully tailored to the station's needs .This radio station is one of the most important broadcasters locally.

Technical Manager Andrew Pike sent Prosound a warm letter to be forwarded to AEQ, in which he expresses his appreciation to the Prosound people involved in the installation: Vaughan, François and Prince, as well as the AEQ staffers who supported them: Antonio and Daniel. In the letter, he recalls the hours invested in installing, starting up the system, configuring it so that it would be adapted to the way the Radio Jacaranda staff works, patiently training the users and solving little problems that came up.

He also expresses his pleasure and satisfaction because they are sure of having chosen the right product in a market that is teeming with competitors.

For AEQ it was also a pleasure to work for a customer that has shown so much professionalism; we are delighted to have had the occasion, through Prosound, to add this great South African radio broadcaster to our reference list.

INDIA

MEOW RADIO, THE RADIO DIVISION OF THE INDIA TODAY GROUP, NEW DELHI.

Commercial station with access to 35 million listeners. Today Radio purchased through the local AEQ distributor, Falcon Technologies, two ARENA consoles, one for its main studio and the other for the recording and backup studio.

CHINA

HARBIN MUNICIPAL RADIO

Through the local AEQ distributor, Infomedia, in 2005 they installed a control center based on the AEQ BC-2000 D digital audio matrix and two BC-2000 D digital audio consoles for two newly created studios. Recently they expanded their equipment base with a new studio furnished with the latest generation AEQ ARENA console.

OTHER ARENA CONSOLES INSTALLED IN CHINA

Two consoles were installed in Kumming and one in Baiyin for provincial radio stations. Another console was installed in Dali´s local radio station.

JORDAN

P.S.D., AMMAN

The Amman Public Safety Department purchased through the local AEQ distributor Heat, a 25-fader ARENA console for its radio studio in the Jordanian capital. Its configuration establishes a maximum of 36 analog mono or 18 stereo signals both in inputs and outputs, three AES/EBU inputs and eight microphones simultaneously.

SIRIA

AL-DUNIA TV

Al-Dunia TV, the first private channel with a broadcast license in Syria, will soon be the generalist channel with the most advanced, efficient technological configuration in its entire region. Al-Dunia bought three ARENA consoles for the audio on its sets. Al-Dunia TV transmits in DVB through Arabsat.

BRASIL

RBS TV GAUCHA PORTOALEGRE

Recently acquired through the AEQ distributor, Line Up one ARENA digital Console for one of the studios.

MEXICO

RADIO EDUCACIÓN

AEQ supplied Radio Educación an ARENA digital console for its central studios in Mexico. It plans to add a second unit soon.

COLOMBIA

UNIVERSIDAD NACIONAL

AEQ has provided, through the AEQ distributor, Nueva Imagen y Audio, Colombia's national university with an ARENA digital console for its central studios in Bogotá. The users have expressed their satisfaction to AEQ equipment performance.

NEW SALES STRATEGY MANAGER

AEQ has reinforced its selling capacity with the hiring of Juan Arturo Carreter as Sales Strategy Manager. Juan Arturo is a telecommunications engineer with a Master's degree in telecommunications company management from Spain's Instituto de Empresa. He comes to AEQ from the television market, where he worked as Sales Manager at Intelsis, a transmitter manufacturer and integrator of television and radio systems. Before joining Intelsis, he was a staff member of Vitelsa, Spain's biggest integrator of television and radio systems.

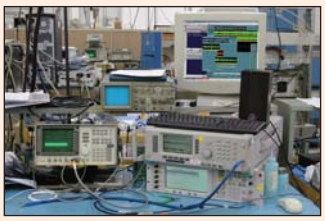
NEW PRODUCT MANAGER

We are also pleased to welcome Gustavo Robles, who has taken over as Product Manager from Daniel Román. Gustavo is a telecommunications engineer with a concentration in sound and image. He worked as a sales engineer for Sapec, a manufacturer and integrator of audio and video encoders for radio and television. Previously, he was a member of the technical support staff at the EFE news agency, and a sales technician at Promovisa, one of best television integrators in Spain.

REINFORCEMENT OF THE AEQ UK STRUCTURE

AEQ UK Ltd.
Professional Broadcast

AEQ UK, the AEQ subsidiary whose mission is to service the British market, was integrated into the Active Information System company, a firm that is extremely well positioned in the radio market due to its activity in the United Kingdom in the integration and maintenance of the popular RCS / Selector automation and musical rotation systems. Carl Landsbert will continue working on AEQ UK projects as a consultant and systems engineer.



R&D DEPARTMENT REINFORCEMENT

To ensure the best possible execution of the projects in progress, the floor space devoted to R&D was increased and more engineers hired. At this point, if the Technical Office for Pre-industrial Production Development is included, the number of people who are developing products at AEQ exceeds 30, which accounts for 35% of the staff.

AEQ HAS AWARDED THE NEW BUILDING CONTRACT TO ACME

After obtaining the necessary permits, and following a selection and negotiation process, AEQ awarded ACME, a member of the French group Acieroid, the contract for the construction of our new facilities, which will occupy more than 5,000 square meters. Building work began recently.

AEQ CONTINUED WITH ITS PARTICIPATION IN THE PRESENTATIONS OF THE EUROPEAN DIGITAL TERRESTRIAL TELEVISION STANDARD IN LATIN AMERICA

As we reported in previous news publications, AEQ participates, with Spain's Ministry of Industry, Tourism and Commerce, ICEX, the Integrated Digital Consortium, and the AENTEC and AETIC associations, in the "Spain-Latin America Cooperation Initiatives for the Implementation of Digital Terrestrial Television". With these initiatives, AEQ is positioning itself as an equipment and service provider for this technology.

Among the activities aimed at promoting this technological cooperation, in 2007 AEQ Chairman Rogelio de la Fuente participated in the delegations that held meetings in Colombia, Venezuela, Argentina, Panama and Spain.

EXPANSION OF INTERNATIONAL PRESENCE: DISTRIBUTORS AND FAIRS

With every passing day, AEQ wants to be nearer to its customers, who are located worldwide.

That is why, as of this writing, we have four wholly owned branch offices, two branches that we share with our distributors, and 122 official independent distributors in 69 different countries, many of which offer technical support services.

In 2007 AEQ exhibited at 19 international trade fairs, either by itself or in cooperation with our distributors. We are always willing to support any distributor that wishes to strengthen our presence in its area of influence, and to listen to any customer who has a need to be met, regardless of the geographical zone involved.